

What is claimed is:

1. A method for manufacturing a fluid-ejection device capable of ejecting fluid onto media, the method comprising:

adhering a fluid-ejecting substrate of the fluid-ejection device to a carrier of the fluid-ejection device by drawing an adhesive between the fluid-ejecting substrate and the carrier using capillary action.

2. The method of claim 1, further comprising aligning each of a plurality of slots of the fluid-ejecting substrate with a respective one of a plurality of channels of the carrier before drawing the adhesive between the fluid-ejecting substrate and the carrier.

3. The method of claim 1, wherein drawing the adhesive between the fluid-ejecting substrate and the carrier using capillary action causes each of a plurality of slots of the fluid-ejecting substrate to self-align with a respective one of a plurality of channels of the carrier.

4. The method of claim 1, further comprising forming a gap between the fluid-ejecting substrate and the carrier before drawing the adhesive between the fluid-ejecting substrate and the carrier, wherein drawing the adhesive between the fluid-ejecting substrate and the carrier comprises drawing the adhesive through the gap.

5. The method of claim 4, wherein forming the gap between the fluid-ejecting substrate and the carrier comprises disposing spacers between the fluid-ejecting substrate and the carrier.

6. The method of claim 1, further comprising disposing the fluid-ejecting substrate in a recess in the carrier before drawing the adhesive between the fluid-ejecting substrate and the carrier and dispensing the adhesive into the recess before drawing the adhesive between the fluid-ejecting substrate and the carrier.

7. The method of claim 6, wherein dispensing the adhesive into the recess comprises directing the adhesive through a flow passage disposed in the carrier that opens into the recess.

8. The method of claim 1, wherein drawing the adhesive between the fluid-ejecting substrate and the carrier comprises drawing the adhesive from one or more edges of the fluid-ejecting substrate.

9. The method of claim 1, wherein adhering the fluid-ejecting substrate to the carrier comprises curing the adhesive after drawing the adhesive between the fluid-ejecting substrate and the carrier.

10. The method of claim 1, further comprising heating the adhesive, the fluid-ejecting substrate, and the carrier before drawing the adhesive between the fluid-ejecting substrate and the carrier.

11. The method of claim 1, further comprising dispensing the adhesive into a moat in the carrier before drawing the adhesive between the fluid-ejecting substrate and the carrier.

12. The method of claim 11, further comprising bringing the fluid-ejecting substrate into contact with the adhesive contained within the moat before drawing the adhesive between the fluid-ejecting substrate and the carrier, wherein bringing the fluid-ejecting substrate into contact with the adhesive causes the adhesive to be drawn between the fluid-ejecting substrate and the carrier.

13. A method for manufacturing a fluid-ejection device capable of ejecting fluid onto media, the method comprising:

forming a gap between a first surface of a fluid-ejecting substrate of the fluid-ejection device and a second surface of a carrier of the fluid ejection device, wherein the first surface surrounds a plurality of slots in the fluid-ejecting substrate and the second surface surrounds a plurality of channels in the carrier; and

drawing an adhesive through the gap using capillary action so as to distribute the adhesive over the first and second surfaces and so that the adhesive does not flow into the slots or the channels, wherein the adhesive is for adhering the fluid-ejecting substrate to the carrier at the first and second surfaces.

14. The method of claim 13, wherein drawing the adhesive through the gap comprises drawing the adhesive from one or more edges of the fluid-ejecting substrate.

15. The method of claim 13, wherein forming the gap between the first and second surfaces comprises disposing spacers between the first and second surfaces.

16. The method of claim 13, further comprising dispensing the adhesive into a moat disposed in the carrier around the second surface before drawing the adhesive through the gap.

17. The method of claim 16, wherein forming the gap comprises bringing the fluid-ejecting substrate into contact with the adhesive contained within the moat, wherein bringing the fluid-ejecting substrate into contact with the adhesive causes the adhesive to be drawn through the gap.

18. A method for manufacturing a fluid-ejection device capable of ejecting fluid onto media, the method comprising:

disposing a fluid-ejecting substrate of the fluid-ejection device in a recess of a carrier of the fluid-ejection device to form a gap between a first surface of the fluid-ejecting substrate and a second surface of the recess, wherein the first surface surrounds a plurality of slots in the fluid-ejecting substrate and the second surface surrounds a plurality of channels in the carrier;

dispensing an adhesive into the recess; and

drawing the adhesive from at least one edge of the fluid-ejecting substrate through the gap using capillary action so as to distribute the adhesive over the first and second surfaces and so that the adhesive does not flow into the slots or the channels, wherein the adhesive is for adhering the fluid-ejecting substrate to the carrier at the first and second surfaces.

19. The method of claim 18, wherein dispensing the adhesive into the recess comprises directing the adhesive through a flow passage disposed in the carrier that opens into the recess.

20. The method of claim 18, further comprising aligning each of the plurality of slots with a respective one of the plurality of channels before dispensing the adhesive into the recess.

21. The method of claim 18, wherein drawing the adhesive through the gap using capillary action causes each of the plurality of slots to self-align with a respective one of the plurality of channels.

22. The method of claim 18, wherein dispensing the adhesive into the recess comprises dispensing the adhesive into a moat disposed within the recess and around the second surface before disposing the fluid-ejecting substrate in the recess, wherein disposing the fluid-ejecting substrate in the recess comprises bringing the fluid-ejecting substrate into contact with the adhesive contained within the moat, wherein bringing the fluid-ejecting substrate into contact with the adhesive causes the adhesive to be drawn through the gap.

23. A method for manufacturing a fluid-ejection device capable of ejecting fluid onto media, the method comprising:

forming a moat in a carrier of the fluid-ejection device around a first surface of the carrier, wherein the first surface surrounds a plurality of channels in the carrier;

dispensing an adhesive into the moat;

bringing a fluid-ejecting substrate of the fluid-ejection device into contact with the adhesive contained within the moat, wherein the fluid-ejecting substrate has a second surface surrounding a plurality of slots in the fluid-ejecting substrate; and

drawing the adhesive from at least one edge of the fluid-ejecting substrate through a gap between the first and second surfaces using capillary action in response to contacting the adhesive with the fluid-ejecting substrate so as to distribute the adhesive over the first and second surfaces and so that the adhesive does not flow into the slots or the channels, wherein the adhesive is for adhering the fluid-ejecting substrate to the carrier at the first and second surfaces.

24. The method of claim 23, wherein dispensing the adhesive into the moat comprises directing the adhesive through a flow passage disposed in the carrier.

25. The method of claim 23, wherein drawing the adhesive through the gap using capillary action causes each of the plurality of slots to self-align with a respective one of the plurality of channels.

26. The method of claim 23, wherein forming the moat in the carrier around the first surface of the carrier comprises forming the moat below the level of the first surface.

27. A method for controlling a flow of a multi-component fluid over a surface, the method comprising:

increasing a viscosity of the multi-component fluid by drawing a component from the multi-component fluid by capillary action into one or more channels disposed in the surface, wherein increasing the viscosity acts to control the flow of the multi-component fluid by slowing or stopping the flow of the multi-component fluid.

28. The method of claim 27, further comprising directing the multi-component fluid into the one or more channels before drawing the component from the multi-component fluid.

29. The method of claim 27, wherein increasing the viscosity of the multi-component fluid by drawing the component from the multi-component fluid by capillary action into the one or more channels comprises directing the multi-component fluid through a first channel segment of the one or more channels and drawing the component through a second channel segment of the one or more channels that is connected to the first channel segment and that has a smaller flow cross-section than the first channel segment.

30. The method of claim 27, wherein drawing the component from the multi-component fluid into one or more channels comprises flowing the component substantially parallel to the surface within the one or more channels.

31. The method of claim 27, wherein drawing the component from the multi-component fluid into one or more channels comprises drawing the component into the one or more channels so that the component is substantially perpendicular to the surface and a boundary of the multi-component fluid.

32. The method of claim 27, wherein drawing the first component from the multi-component fluid into one or more channels comprises drawing a resin from a multi-component encapsulant.

33. The method of claim 32, wherein drawing the first component from the multi-component fluid into one or more channels increases a filler concentration of the multi-component encapsulant.

34. A method for encapsulating electrical elements of a fluid-ejection device capable of ejecting fluid onto media, the method comprising:

forming a plurality of channels in a surface of a fluid-ejecting substrate of the fluid-ejection device between the electrical elements and a plurality of orifices of the fluid-ejecting substrate;

directing a flow of encapsulant onto the electrical elements; and

controlling spreading of the encapsulant over the surface using the plurality of channels if the encapsulant spreads to the plurality of channels by increasing a viscosity of the encapsulant by drawing a resin from the encapsulant by capillary action into one or more of the plurality of channels.

35. The method of claim 34, wherein controlling spreading of the encapsulant over the surface comprises one of stopping or slowing spreading of the encapsulant.

36. The method of claim 34, wherein forming the plurality of channels in the surface of the fluid-ejecting substrate comprises forming channels comprising first and second interconnected channel segments, wherein a flow cross-section of the first channel segment is larger than a flow cross-section of the second channel segment.

37. The method of claim 36, wherein forming channels comprising first and second interconnected channel segments comprises sizing the second channel segment so that the second channel segment acts to prevent a filler of the encapsulant from flowing through the second channel segment.

38. The method of claim 36, wherein forming channels comprising first and second interconnected channel segments comprises sizing the second channel segment so that the flow cross-section of the second channel segment is smaller than particles of a filler of the encapsulant.

39. The method of claim 36, wherein forming channels comprising first and second interconnected channel segments comprises interconnecting the first and second interconnected channel segments with a taper or a step.

40. The method of claim 36, wherein increasing the viscosity of the encapsulant by drawing the resin from the encapsulant by capillary action into one or more of the plurality of channels comprises directing the encapsulant through the first channel segment and drawing the resin through the second channel segment.

41. A fluid-ejecting substrate comprising:

means for expelling the fluid from the fluid-ejecting substrate;

means for electrically connecting the fluid expelling means to a power source;

means for producing capillary action for drawing a resin from an encapsulant so as to increase a viscosity of the encapsulant for controlling spreading of the encapsulant when the encapsulant is disposed on the electrical connecting means and if the encapsulant spreads toward the fluid-ejecting means.

42. The fluid-ejecting substrate of claim 41, wherein the fluid expelling means comprises a plurality of orifices and a plurality of electrical resistors.

43. The fluid-ejecting substrate of claim 41, wherein the means for producing capillary action comprises a plurality of channels disposed in a surface of the fluid-ejecting substrate.

44. The fluid-ejecting substrate of claim 41, wherein the fluid-ejecting substrate is fluidly and electrically coupled to a print cartridge.

45. The fluid-ejecting substrate of claim 41, wherein the fluid-ejecting substrate is fluidly and electrically coupled to a carrier of a print head.

46. The fluid-ejecting substrate of claim 45, wherein the print head is fluidly coupled to an ink reservoir by a flexible conduit.

47. A fluid-ejection device comprising:

a carrier;

a fluid-ejecting substrate disposed on the carrier and fluidly and electrically coupled to the carrier; and

a plurality of channels disposed in a surface of the fluid-ejecting substrate between electrical contacts of the fluid-ejecting substrate and a plurality of orifices in the surface of the fluid-ejecting substrate.

48. The fluid-ejection device of claim 47, further comprising an encapsulant disposed over the electrical contacts.

49. The fluid-ejection device of claim 48, wherein the encapsulant extends over a portion of the plurality of channels.

50. The fluid-ejection device of claim 48, wherein channels are for producing capillary action for drawing a resin from the encapsulant so as to increase a viscosity of the encapsulant for controlling spreading of the encapsulant when the encapsulant is disposed on the electrical contacts.

51. The fluid-ejection device of claim 47, further comprising electrical connectors, disposed on a surface of the carrier, that are connected to the electrical contacts by electrical interconnects.

52. The fluid-ejection device of claim 47, further comprising resistors disposed in the fluid-ejecting substrate adjacent the orifices and electrically connected to the electrical contacts.